of economic modelling (e.g. cycle length), these estimates cannot be incorporated directly. The objective was to adapt the remission rates to model cycle length, using various statistical methods. **METHODS:** From a systematic review, 4 studies reporting proportions of patients undergoing remission at different time points were identified. One of the studies reported data for 2 populations (CSU/CIU and all chronic urticaria patients), therefore, 5 populations were considered in total. A four-step approach was undertaken: (1) converting reported data to standard time units; (2) using the extracted data to run the Kaplan-Meier (K-M) analysis; (3) applying four statistical distributions (exponential, log-normal, weibull and log-logistic) to identify the distribution best fitting the literature estimates. Lowest Kolmogorov-Smirnov (KS) distance was chosen as the criterion for the best fit distribution; (4) values obtained from the best fit distribution were further converted into rates for each 4-week cycle length. The analysis was carried out for 78 years to correspond to the lifetime horizon of the cost-effectiveness model. **RESULTS:** Based on the KS distance, log-normal distribution was the best fit for 2 populations and log-logistic for 3 populations. Remission rates were generated for these 5 populations which ranged from 9.5% to 37.7% for year 1, 29.5% to 70.8% for year 5 and 49.6% to 91.5% for year 20. **CONCLUSIONS:** This approach provides a robust statistical method for adapting the literature estimates as per the requirements of an economic model. Due to the wide range of remission estimates in the literature, face validation via expert clinical opinion is recommended to determine appropriate model inputs.

PRM87

EXPERT PERSPECTIVE ON THE TREATMENT OF FUNCTIONAL DYSPEPSIA AND MOTILITY DISORDERS: A MULTI-CRITERIA DECISION ANALYSIS USING THE ANALYTIC HIERARCHY PROCESS (AHP)

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OBJECTIVES: Functional dyspepsia or gastrointestinal disorders are extremely common in Germany. Estimates suggest that a total of 15-30% of adults suffer from functional disorders. The aim of this study was to identify and weight the decision expert's relevant decision criteria with regard to the drug treatment of functional dyspepsia or motility disorders. Attributes such as onset of action, reduction of symptoms and side effects were to be examined in order to test their relevance to health care decision makers. **METHODS:** On the basis of a literature search and qualitative patient (N=6) and expert interviews (N=4), a questionnaire was developed. By means of the analytic hierarchy process (AHP), the study elicited the priorities regarding various aspects of treatments of dyspepsia and motility disorders. The collection of data from experts of the field of gastroenterology was done in real time within the context of a group discussion using an item-response-system. **RESULTS:** As a result of the interviews, seven characteristics were established which were judged to be the most important. A total of N=20 experts took part in the group discussion and the AHP survey. For all participants the criterion "reduction of abdominal cramps" was the most important attribute of a drug treatment. It became clear that reduction of symptoms, time to onset of action and risk of side-effects were of central importance. Consequently, the following criteria were assessed to be most relevant: reduction of abdominal cramps (w:0.302), reduction of epigastric pain (w:0.250) and time to onset of action (w:0.117). **CONCLUSIONS:** The AHP represents a suitable and scientifically transparent approach for the elicitation of experts' priorities within the context of group discussions. The item response system served as a valuable instrument to collect quantitative data based on a group discussion. The patient perspective in a subsequent discrete-choice experiment will expand the findings of this study.

PRM88

THE IMPACT OF BASELINE HBA1C AND HBA1C TRAJECTORIES ON TIME TO THERAPY ESCALATION IN TYPE 2 DIABETES MELLITUS

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OBJECTIVES: Demonstrating face validity in health economic models enhances their credibility and is important if the model's output is to robustly inform healthcare decision-making. Type 2 diabetes (T2DM) models are typically complex and their results are influenced by multiple factors including treatment effects, cohort characteristics, choice of rescue therapies and structural settings, such as therapy escalation thresholds. The objective of this study was to illustrate the impact that baseline HbA1c and HbA1c trajectories exerts on time to therapy escalation when using guideline therapy escalation thresholds compared with clinical practice. **METHODS:** Using the UKPDS 68 HbA1c trajectory equation implemented within the IMS CORE diabetes model, the time to therapy escalation was assessed as a function of baseline HbA1c (7.0%, 7.5%, 8.0% and 8.5%) with therapy escalation thresholds recommended by NICE (7.5%) versus those observed in clinical practice in the UK (8.5%). Published data informed initial HbA1c treatment effects of -0.93% (standard deviation 0.17%). Second order uncertainty was utilised with baselines HbA1c, treatment reduction and HbA1c trajectories sampled; results were averaged over 10,000 simulations. **RESULTS:** Using NICE escalation criteria (7.5%) mean (SD) time to escalation was 6.6 (0.6), 5.2 (0.5), 3.6 (0.5) and 1 (0.0) years for cohorts with baseline HbA1c of 7.0%, 7.5%, 8.0% and 8.5% respectively. Using escalation levels observed in clinical practice (8.5%) mean (SD) time to escalation was 17.4 (4.3), 14.0 (3.2), 11.2 (2.4) and 8.9 (1.9) years for cohorts with baseline HbA1c of 7.0%, 7.5%, 8.0% and 8.5% respectively. **CONCLUSIONS:** The use of aspirational guideline based therapy escalation thresholds has the potential to significantly impact the expected time to therapy escalation and the variability in timing. As duration on therapy is a key driver in cost effectiveness studies, parameters controlling timing of therapy escalation should be robustly explored in sensitivity analysis.

PRM89

VALIDATION OF FRACTURE RISK MODEL IN JAPANESE WOMEN COMPARED WITH FRAX

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OBJECTIVES: Although the fracture risk assessment tool (FRAX) developed by WHO is considered to be valid and reliable, its algorithm is not open to the public and is thus unavailable for economic evaluations. The purpose of this study was to develop a state transition model with risk equations for osteoporotic fracture in Japanese women and to verify the validity of our model by comparison of the predicted 10-year osteoporotic fracture probabilities in our model and those derived from the FRAX. **METHODS:** Equations for age and femoral neck BMD specific incidence of hip, clinical spine, and other fracture were developed using a series of methods by De Laet, et al and epidemiological data of postmenopausal Japanese women. A patient-level state transition model with ten health states using the equations was used to predict the 10-year probability of a hip fracture and a major osteoporotic fracture in Japanese women with osteoporosis, who had no treatments. We ran the model with different combinations of BMD (T-score–1.5, –2.0, or –2.5), and the number of clinical risk factors (0, 1, 2, or 3). The predicted values in our model were compared with those of the FRAX. **RESULTS:** For 70-year-old women with different combinations of T-scores and the number of clinical risk factors, the estimated 10-year probabilities of hip fracture in our model were almost identical to those of the FRAX. The 10-year probabilities of major osteoporotic fracture in our model also appeared to be consistent with those of the FRAX. These findings supported the validity of our model in the use of health economic evaluation. **CONCLUSIONS:** The developed model appears to be a valid model for use in economic evaluation in osteoporosis from the perspective of Japan healthcare system. The relation between 10-year fracture probability and ICER of osteoporosis treatment can be estimated using this model.

PRM90

DEVELOPMENT AND VALIDATION OF A CONCEPTUAL MODEL OF MULTIPLE MYELOMA

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OBJECTIVES: To develop and validate a conceptual model (CM) of multiple myeloma (MM) for use in economic modelling that characterises the disease in terms of attributes that impact on disease progression and outcomes. **METHODS:** A draft CM was developed using two systematic literature reviews to identify attributes of MM that appeared to impact on disease progression and outcomes. These attributes were grouped according to the aspects they measured (e.g. symptoms) and then linked to denote relationships across groups. This was discussed and validated by a Delphi panel of four MM experts. For simplicity, the CM did not consider the impact of treatment **RESULTS:** Consensus was reached about the attributes to be included in the CM: baseline and disease characteristics (age, comorbidities, Eastern Cooperative Oncology Group performance status and genetic factors), central associations (disease activity, complications and symptoms) and final outcomes (overall survival [OS], quality of life). Disease activity was measured by several factors, including M-protein and serum lactate dehydrogenase. There was consensus that most genetic factors [e.g. t(4;14), del(13p)] influenced disease activity, which in turn affected complications (e.g. anaemia, renal complications). Symptoms (e.g. pain, bone fractures) were influenced by genetic factors and disease activity. Disease activity, comorbidities and complications impacted on OS. Consensus was not reached for the impact of age/comorbidities on complications/symptoms, nor for the influence of del(17p) on complications. **CONCLUSIONS:** There was agreement on the attributes that should be used to characterise and understand MM; however, the lack of consensus on the association between some attributes reflects the relatively limited understanding of how aspects of MM impact on disease progression and outcomes. Future studies should focus on understanding the gaps identified. This CM may be used in economic modelling and could form the foundation for developing disease-based MM models to explore the impact of treatment on outcomes.

PRM91

DEVELOPMENT OF A COST-EFFECTIVENESS ANALYSIS FRAMEWORK FOR MODELING TREATMENT OF ALZHEIMER'S DISEASE AND MILD COGNITIVE IMPAIRMENT

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OBJECTIVES: With a variety of medical technologies under development to address the increasing prevalence of Alzheimer's Disease (AD) and Mild Cognitive Impairment (MCI), stakeholders need methods to assess and compare their value. The Clinical Dementia Rating (CDR) Sum of Boxes (SOB) scale can be used to stage AD and MCI severity, but has not previously been incorporated into cost-effectiveness analysis (CEA) models. We developed a CEA framework to evaluate effectiveness using the increasingly common CDR-SOB endpoint. **METHODS:** A systematic literature review was conducted to identify published AD and MCI cost-effectiveness models. The review identified no models that evaluated effectiveness using the CDR-SOB score. To facilitate use of this measure in future health economic evaluations, we developed a state-transition model that synthesizes prior study results to link CDR-SOB score changes to MMSE health states. We then applied standard health state utilities and direct medical expenditure values from prior AD and MCI CEAs. **RESULTS:** We mapped CDR-SOB scores to MMSE health states using the results from Delor et al. (2013) and O'Bryant et al. (2008), and extrapolated long-term (5+ year) disease progression using a variety of curve fits. Based on the baseline CDR-SOB score distribution, patients were assigned to one of five health